Aerospace Education

This Webliography supports Aerospace Education Day on September 10, 2013. The entries focus on U.S. Government initiatives, top engineering graduate institutions, museums, industry initiatives, and professional industry associations, all key players in aerospace education in the United States.

NASA is making final preparations to launch a probe at 11:27 p.m. EDT Friday, Sept. 6, from NASA's Wallops Flight Facility on Wallops Island, VA (Image credit: NASA)

Scan this QR code or type this URL http://goo.gl/52NR9d to access it on your computer or smart devices

U.S Government Initiatives

NASA Aerospace Education Services Project
http://www.nasa.gov/offices/education/programs/descriptions/Aerospace_Education_Services_Project.html

The Aerospace Education Services Project, or AESP, is a comprehensive project designed to reach out to the formal and informal education communities in all 50 states and the U.S. territories. The AESP specialists share NASA's use of emerging instructional technologies and the motivating outcomes of NASA's research, exploration and discovery with education communities and the public. The primary focus of AESP is a professional development effort that serves the K-12 education community by providing in-service training for educators, classroom lesson modeling, distance learning events, pre-service training for university students and identification of appropriate NASA education resources.
Official website: http://aesp.psu.edu/

NASA Langley Research Center
http://www.nasa.gov/centers/langley/home/index.html

NASA Langley researchers carry on the legacy of their pioneering predecessors. Whether its testing airbags for space capsule landings, developing technologies to allow aircraft to fly at supersonic and hypersonic speeds or studying Earth's atmosphere to better understand global climate change, NASA Langley remains on the leading edge as it has since 1917.

This two-engine B200 King Air aircraft will collect data for the DISCOVER-AQ study from an altitude of 26,000 feet. The plane's instruments will look down at the Earth's surface, much like a satellite, and measure particulate and gaseous air pollution. Image Credit: NASA

NASA Glenn Research Center
http://www.nasa.gov/centers/glenn/home/index.html

NASA's Glenn Research Center in Cleveland, Ohio, is one of ten NASA centers. This research center is an essential component of NASA and an integral contributor to the region.

STEM: Making a Difference
http://photos.state.gov/libraries/amgov/133183/english/20130117_STEM_Making_A_Difference_English.pdf

This publication features Clara Louisa Fannjiang, a secondary school student from California, who discovered a way to help astronomers who use widely separated radio telescopes on Earth to observe space

Science: The New Frontier
http://photos.state.gov/libraries/amgov/30145/publications-english/1301_EJ_ScienceNewFrontier_English.pdf

This issue of eJournal USA explores how science is conducted in the 21st century: how the Internet and other technologies are helping shape both the questions pursued by scientists and the ways in which scientists interact and share new knowledge. It also highlights some of the remarkable progress already achieved by younger scientists in understanding the genesis of disease, our place in the universe and the circuitry of the brain.

Aerospace Engineers: Find out about the career from United States Department of Labor
http://www.bls.gov/ooh/architecture-and-engineering/aerospace-engineers.htm
Aerospace engineers design aircraft, spacecraft, satellites, and missiles. In addition, they test prototypes to make sure that they function according to design.

Top Aerospace Engineering Graduate Schools in the United States

(This top list is based on the Best Grad School Ranking in 2013 by U.S. News & World Report)

California Institute of Technology, Pasadena, CA
Graduate Aerospace Laboratories of the California Institute of Technology (GALCIT)
http://www.galcit.caltech.edu/
The research at the Graduate Aerospace Laboratories of the California Institute of Technology (GALCIT) has evolved over the past three quarters of a century to include aerospace and biosystems engineering, however, the tradition of integrating basic experiments, theory, and simulations over a broad range of spatial and temporal scales continues to characterize our approach. Their educational emphasis is on the fundamentals and advanced diagnostics, with a view toward the future: bio-inspired engineering, micro- and nano-mechanics, space science, and space technology.

Massachusetts Institute of Technology, Cambridge, MA
Department of Aeronautics and Astronautics (AeroAstro)
http://aeroastro.mit.edu/
AeroAstro is America's oldest and most respected university aerospace program. It has a tradition of strong scholarship and solving industrial-strength problems. The community comprises people whose careers have included astronaut, fighter pilot, Air Force secretary, NASA associate administrator, Air Force chief scientist, aerospace executive and corporate founder. Our alums are entrepreneurs, policy-makers, educators, and researchers pushing technology's boundaries.

Stanford University, Stanford, CA
The Aeronautics and Astronautics Department
http://aa.stanford.edu/
The Aeronautics and Astronautics Department is well situated to tackle many of these challenges. Through the combined efforts of the Aerospace Design Lab, the Aircraft Aerodynamics and Design Group, the GPS Lab, and the Unsteady Flow Physics and Aeroacoustics Laboratory, and collaborations with other departments, the Aero/Astro Department is tackling many of the key enabling technologies and ideas to make a sustainable commercial aviation system a reality.

University of Michigan–Ann Arbor, Ann Arbor, MI
Department of Aerospace Engineering – Michigan AERO
http://www.engin.umich.edu/aero
The University of Michigan started the first collegiate aeronautics program in the United States in 1914. Since then, the Department has graduated more than 6,000 aeronautical and aerospace engineers. Their graduate program ranks No. 1 among public institutions and undergraduate program ranks No. 3 in the nation by U.S. News for 2013.

Georgia Institute of Technology, Atlanta, GA
Daniel Guggenheim School of Aerospace Engineering
http://www.ae.gatech.edu/
The Daniel Guggenheim School of Aerospace Engineering at the Georgia Institute of Technology is one of the oldest – and largest – educational programs of its kind in the country. The Institute had been asked to instruct U.S. Army personnel in aviation matters as early as 1917. A stand-alone department was formed in 1930 after receiving the seventh – and last – grant from the Daniel Guggenheim fund. Known then as the Daniel Guggenheim School of Aeronautics, its name was officially changed to the School of Aerospace Engineering on July 1, 1962.

Purdue University–West Lafayette, West Lafayette, IN
School of Aeronautics and Astronautics
https://engineering.purdue.edu/AAE
Aeronautical education has existed on at least a small scale at Purdue University since about 1920. Aeronautical Engineering degrees were first offered at Purdue by the School of Mechanical & Aeronautical Engineering during WWII, and the first B.S. Degrees were awarded in 1943. The School of Aeronautics was established as a separate entity on July 1, 1945.

University of Illinois–Urbana-Champaign, Urbana, IL
Department of Aerospace Engineering
http://aerospace.illinois.edu/
The Department of Aerospace Engineering at Illinois is an international leader in aerospace science and engineering. With nationally ranked undergraduate and graduate programs, internationally renowned faculty, and state-of-the-art research facilities, the department is committed to excellence and leadership in teaching, research, and service.

Aerospace Museums in the United States

The Museum of Flight
Seattle
http://www.museumofflight.org/
The Museum of Flight to acquires, preserves, and exhibits historically significant air and space artifacts, which provide a foundation for scholarly research, and lifelong learning programs that inspire an interest in and understanding of science, technology, and the humanities.

The Smithsonian's National Air and Space Museum
DC & Virginia
http://airandspace.si.edu/
The Smithsonian's National Air and Space Museum maintains the world's largest and most significant collection of aviation and space artifacts, encompassing all aspects of human flight, as well as related works of art and archival materials. It operates two landmark facilities that, together, welcome more than eight million visitors a year, making it the most visited museum in the country.

Aerospace Museum of California
California
http://www.aerospaceca.org/
The Aerospace Museum of California is one of aviation's greatest showcases within a spacious modern facility at McClellan Business Park in Sacramento. The Museum provides a world class opportunity to learn about and celebrate aviation's past, present and future. The Museum's 37,500 square-foot Hardie Setzer Aerospace Pavilion includes a massive exhibit hall & a four acre Air Park featuring a variety of historic aircraft.

Hill Aerospace Museum
Utah
http://www.hill.af.mil/library/museum/
Hill Aerospace Museum is located on approximately 30 acres on the northwest corner of Hill Air Force Base, Utah, about five miles south of Ogden. The museum was founded in 1981 as a part of the United States Air Force Heritage Program and first opened in 1986.

Niagara Aerospace Museum
New York
http://wnyaerospace.org/
The Aerospace Museum owes its existence to the efforts of present and former aircraft industry employees, licensed pilots and aviation enthusiasts who recognized the singular role played by Western New York entrepreneurs and businesses throughout the history of aviation. This knowledgeable group saw a need to protect and preserve surviving physical artifacts and related graphic and written materials while still available.

Pima Air & Space Museum
Arizona
http://www.pimaair.org/
Pima Air & Space Museum, where history takes flight, is one of the largest air and space museums in the world, and the largest non-government funded aviation museum. More than 300 aircraft and spacecraft including many of the most historically significant and technically advanced craft ever produced, both from the United States and throughout the world are exhibit in this museum.

Reports on the Aerospace Industry in the United States

The Aerospace Industry in the United States
http://selectusa.commerce.gov/industry-snapshots/aerospace-industry-united-states

The Aerospace and Defense Industry in the U.S.: A Financial and Economic Impact Study
http://armedservices.house.gov/index.cfm/files/serve?File_id=126226cd-bc54-4e4b-a9ec-1ea16e61a2dd

U.S. Aerospace Industry Statistics
http://www.trade.gov/mas/manufacturing/oaai/tg_oaai_003646.asp

Reports prepared by U.S. Government Agencies or Sponsored by the U.S. Government Concerning the Aerospace Industry
http://www.trade.gov/mas/manufacturing/oaai/tg_oaai_003647.asp

U.S. Aerospace Associations

Aerospace Industries Association (AIA)
http://www.aia-aerospace.org/

Aerospace States Association
http://aerostates.org/

The American Institute of Aeronautics and Astronautics (AIAA)
http://www.aiaa.org/default.aspx#&panel1-2

Aerospace Joint Apprenticeship Committee
http://www.ajactraining.org/about/

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